

***Amendments to the Claims***

Claims 1-25 (previously canceled)

Claim 26 (currently amended): A method of producing an Avian Myeloblastosis Virus (AMV) reverse transcriptase having a an RNA-dependent DNA polymerase specific activity of at least about 30,000 units per milligram, said method comprising

- (a) obtaining a eukaryotic host cell comprising one or more nucleic acid sequences encoding AMV reverse transcriptase; and
- (b) culturing said host cell under conditions sufficient to produce said AMV reverse transcriptase; and
- (c) isolating or purifying said reverse transcriptase thereby obtaining an AMV reverse transcriptase having a an RNA-dependent DNA polymerase specific activity of at least about 30,000 units per milligram.

Claim 27 (previously canceled)

Claim 28 (currently amended): The method of claim 26, wherein said nucleic acid sequences encode ~~AMV reverse transcriptase comprises~~ at least one subunit selected from the group consisting of one or more  $\alpha$  subunits, one or more  $\beta$  subunits, and one or more  $\beta p4$  subunits, of AMV reverse transcriptase, and fragments or mutants thereof having reverse transcriptase activity.

Claims 29-32 (previously canceled)

Claim 33 (currently amended): The method of claim 28, wherein subunits of said AMV reverse transcriptase are expressed in said host cell to form said AMV reverse transcriptase.

Claims 34-116 (previously canceled)

Claim 117 (currently amended): The method of claim 28, wherein said ~~subunits are encoded by~~ nucleic acid sequences are contained in one or more vectors.

Claim 118 (currently amended): The method of claim 28, wherein said nucleic acid sequences encode at least one ~~subunit is an~~  $\alpha$  subunit.

Claim 119 (currently amended): The method of claim 28, wherein said nucleic acid sequences encode at least one ~~subunit is a~~  $\beta$  subunit.

Claim 120 (currently amended): The method of claim 28, wherein said nucleic acid sequences encode at least one ~~subunit is a~~  $\beta$ p4 subunit.

Claim 121 (currently amended): The method of claim 28, wherein said nucleic acid sequences encode at least one ~~subunit is an~~  $\alpha$  subunit and at least one  $[[a]]$   $\beta$  subunit.

Claim 122 (currently amended): The method of claim 119, wherein said AMV

reverse transcriptase comprises said  $\beta$  subunit forms an AMV reverse transcriptase  
comprising two  $\beta$  subunits.

Claim 123 (currently amended): The method of claim 121, wherein said AMV  
reverse transcriptase comprises said  $\alpha$  and  $\beta$  subunits form an AMV reverse transcriptase  
comprising an  $\alpha$  and a  $\beta$  subunit.

Claim 124 (currently amended): The method of claim 28, wherein said ~~subunits are~~  
~~encoded by one or more~~ nucleotide sequences are contained on the same vector.

Claim 125 (currently amended): The method of claim 28, wherein said ~~subunits are~~  
~~encoded by one or more~~ nucleotide sequences are contained on different vectors.

Claim 126 (previously canceled)

Claim 127 (currently amended): The method of claim 26, wherein said AMV reverse  
transcriptase has a an RNA-dependent DNA polymerase specific activity from about 30,000  
units per milligram to about 150,000 units per milligram.

Claim 128 (currently amended): The method of claim 26, wherein said AMV reverse  
transcriptase has a an RNA-dependent DNA polymerase specific activity from about 35,000  
units per milligram to about 150,000 units per milligram.

Claim 129 (currently amended): The method of claim 26, wherein said AMV reverse

transcriptase has a an RNA-dependent DNA polymerase specific activity from about 40,000 units per milligram to about 150,000 units per milligram.

Claim 130 (currently amended): The method of claim 26, wherein said AMV reverse transcriptase has a an RNA-dependent DNA polymerase specific activity from about 45,000 units per milligram to about 150,000 units per milligram.

Claim 131 (currently amended): The method of claim 26, wherein said AMV reverse transcriptase has a an RNA-dependent DNA polymerase specific activity from about 50,000 units per milligram to about 150,000 units per milligram.

Claim 132 (currently amended): The method of claim 26, wherein said AMV reverse transcriptase has a an RNA-dependent DNA polymerase specific activity from about 55,000 units per milligram to about 150,000 units per milligram.

Claim 133 (currently amended): The method of claim 26, wherein said AMV reverse transcriptase has a an RNA-dependent DNA polymerase specific activity from about 60,000 units per milligram to about 150,000 units per milligram.

Claim 134 (currently amended): The method of claim 26, wherein said AMV reverse transcriptase has a an RNA-dependent DNA polymerase specific activity from about 65,000 units per milligram to about 150,000 units per milligram.

Claim 135 (currently amended): The method of claim 26, wherein said AMV reverse

transcriptase has a an RNA-dependent DNA polymerase specific activity from about 70,000 units per milligram to about 150,000 units per milligram.

Claim 136 (currently amended): The method of claim 26, wherein said AMV reverse transcriptase has a an RNA-dependent DNA polymerase specific activity from about 75,000 units per milligram to about 150,000 units per milligram.

Claim 137 (currently amended): The method of claim 26, wherein said AMV reverse transcriptase has a an RNA-dependent DNA polymerase specific activity from about 80,000 units per milligram to about 150,000 units per milligram.

Claim 138 (currently amended): The method of claim 26, wherein said AMV reverse transcriptase has a an RNA-dependent DNA polymerase specific activity of at least about 35,000 units per milligram.

Claim 139 (currently amended): The method of claim 26, wherein said AMV reverse transcriptase has a an RNA-dependent DNA polymerase specific activity of at least about 40,000 units per milligram.

Claim 140 (currently amended): The method of claim 26, wherein said AMV reverse transcriptase has a an RNA-dependent DNA polymerase specific activity of at least about 45,000 units per milligram.

Claim 141 (currently amended): The method of claim 26, wherein said AMV reverse transcriptase has a an RNA-dependent DNA polymerase specific activity of at least about 50,000 units per milligram.

Claim 142 (currently amended): The method of claim 26, wherein said AMV reverse transcriptase has a an RNA-dependent DNA polymerase specific activity of at least about 55,000 units per milligram.

Claim 143 (currently amended): The method of claim 26, wherein said AMV reverse transcriptase has a an RNA-dependent DNA polymerase specific activity of at least about 60,000 units per milligram.

Claim 144 (currently amended): The method of claim 26, wherein said AMV reverse transcriptase has a an RNA-dependent DNA polymerase specific activity of at least about 65,000 units per milligram.

Claim 145 (currently amended): The method of claim 26, wherein said AMV reverse transcriptase has a an RNA-dependent DNA polymerase specific activity of at least about 70,000 units per milligram.

Claim 146 (currently amended): The method of claim 26, wherein said AMV reverse transcriptase has a an RNA-dependent DNA polymerase specific activity of at least about 75,000 units per milligram.

Claim 147 (currently amended): The method of claim 26, wherein said AMV reverse transcriptase has a an RNA-dependent DNA polymerase specific activity of at least about 80,000 units per milligram.

Claim 148 (currently amended): The method of claim 26, wherein said AMV reverse transcriptase comprises ~~at least one~~ a subunit selected from the group consisting of an  $\alpha$  subunit, a  $\beta$  subunit, and a  $\beta p4$  subunit of AMV reverse transcriptase.

Claim 149 (new): The method of claim 26, wherein said host cell is a cultured insect cell.

Claim 150 (new): The method of claim 26, wherein said host cell is an insect larva cell.

Claim 151 (new): The method of claim 26, wherein said host cell is a yeast cell.